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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KIM, PAUL D

ART UNIT PAPER NUMBER

3729

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/864,918

Applicant(s)

CARPENTER, CHARLES

Examiner

Paul D Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,6,7,11-13,15 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,7,11-13,15,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

This office action is a response to the amendment filed on 9/27/2004.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 6, 7, 12, 13, 15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamikawa (JP 2000106520 A).

Kamikawa teaches a process of making a surface acoustic wave device comprising steps of: forming a unitary array of a non-conductive material (2) having opposing first and second surfaces and plural spaced cavities extending into the array from the first surface, each cavity dimensioned to receive a SAW device therein as shown in Figs. 2 and 4; providing at least two conductive paths (23) from within each selected cavity to at least one of the first and second surfaces (24) of the array as shown in Figs 1 and 2; forming a recess from the first surface around selected cavities; inserting and attaching a SAW die (3) face down, in a flip-chip arrangement, into at least some of the selected cavities, each SAW die having conductive means (32) electrically contacting the at least two conductive paths within the corresponding cavity; sealing a metal lid (1) in the recess over the inserted SAW die for hermetically sealing (equivalent with welding) the SAW die within the cavity as shown in Fig. 2; and then separating the

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array into individual SAW devices along separation lines (7) between adjacent cavities as shown in Fig. 4 (see also abstract).

However, Kamikawa fails to disclose the sealing the lid with solder. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to apply the material as recited in the claimed invention for hermetically sealing because Applicant has not disclosed that the material as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with Kamikawa because the sealant material as recited in the claimed invention would perform equally well with the sealant material in Kamikawa for hermetically sealing. Therefore, it would have been an obvious matter of design choice to modify the sealant material of Kamikawa to obtain the invention as specified in claim 1.

As per claims 6, 7 and 15 Kamikawa also teaches that the lid is welded to the non-conductive material (2) as shown in Fig. 2. Welding is required a heat (as per claim 7) for effectuate sealing the lid and protected from an ambient environment (as per claim 15).

As per claims 12 and 13 the non-conductive material (2) as shown in Fig. 2 is made of ceramic.

As per claim 20 the recess has a larger diameter than the cavity in order to form an area of overlap and the lid is sealed in each recess the area of the overlap as shown in Fig. 2.

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3. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamikawa in view of Yoshihara et al. (US PAT. 5,824,177).

Kamikawa teaches all of the limitations as set forth above except a process of forming a tape means over the lid and substrate. Yoshihara et al. teach a method for making a semiconductor device including a process of forming an adhesive layer (6) to cover a lid (1) prior to a cutting process to prevent movement of the structure during the cutting process as shown in Fig. 3E (col. 4, lines 57-64). Therefore, it would also have been obvious at the time the invention was made to a person having ordinary skill in the art to modify facilitating a process of making a SAW device of Kamikawa by forming an adhesive layer to cover a lid as taught by Yoshihara et al. for the purpose of preventing the movement of the composite structure during the cutting process.

As per claim 11 Yoshihara et al. also teach a process of placing the adhesive layer on the first surface, separating from the second surface while maintaining continuity of the adhesive layer across the first surface and removing the individual components (1) after the cutting process from the adhesive layer (6) as shown in Fig. 3E-4E.

Response to Arguments

4. Applicant's arguments with respect to claims 1, 2, 6, 7, 11-13, 15, 19 and 20 have been considered but are moot in view of the new ground of rejection. Rejections are based on the newly cited reference.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D Kim whose telephone number is 571-272-4565. The examiner can normally be reached on Monday-Friday between 8:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul D Kim
Examiner
Art Unit 3729